gered Species. McDonald & Woodward Publishing Co., Blacksburg, VA.

Pague, C. A. & K. A. Buhlmann. 1991. Eastern tiger salamander, *Ambystoma tigrinum tigrinum* Green. Pp. 431-433 *In* K. Terwilliger (Coordinator), Virginia's Endangered Species. McDonald & Woodward Publishing Co., Blacksburg, VA.

Snider, A. T. & J. K. Bowler. 1992. Longevity of reptiles and amphibians in North American collections. Society for the Study of Amphibians and Reptiles, Herpetological Circular (21):1-40.

Tirrell, P. B. 1974. Tiger salamander found in York County, Virginia. Bulletin of the Virginia Herpetological Society 74:1.

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An Unusually Colored Northern Water Snake (*Nerodia sipedon sipedon*) from Giles County, Virginia

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Phenotypic variation among snake populations is widespread, encompassing a wide range of colors and patterns, from completely albinistic to completely melanistic (Wright & Wright, 1957; Hensley, 1959; Dyrkacz, 1981). Albinism has been found to occur in six species of snakes in Virginia: *Carphophis amoenus* from Fairfax County (Allard, 1945), *Elaphe obsoleta* from Rockbridge County (Carroll, 1950) and Westmoreland County (Hensley, 1959), *Heterodon platirhinos* from Fairfax County (Anonymous, 1961), *Lampropeltis triangulum* from Montgomery County (Hensley, 1959), *Nerodia sipedon* from New Kent County (Hensley, 1959), and *Thamnophis sirtalis* from Fauquier County (Shively & Mitchell, 1994). Melanism has been documented in three species. Of the 98 eastern hognose snakes (*Heterodon platirhinos*) examined by Mitchell (1994), 20.4% were melanistic. Bulmer (1985) briefly reported on a population of melanistic northern water snakes (*Nerodia s. sipedon*) from the Virginia side of the Potomac River. Completely melanistic timber rattlesnakes are occasionally observed in the mountains of Virginia (Mitchell, 1994; W. H. Martin, III, pers. comm.).

On 12 June 1988, Richard L. Hoffman found an unusually colored, young adult male *Nerodia sipedon* in Big Walker Creek at White Gate, Giles County, Virginia. The snake was noticed swimming slowly near the stream bed, among large stones and submerged stems of American water-willow (*Justicia americana)* in swift-moving water about 0.3 m deep. When picked up, at midbody, it made no attempt to bite, nor did it manifest typical *sipedon* aggressiveness at any time during the several days it was held captive. The specimen was photographed and released at the place of capture on 16 June 1988.

The description, based on color photographs, is as follows: dorsum - black and red pigment completely lacking; head light brown; upper and lower labials light tan and outlined in slightly darker brown; background color of dorsum of body light tan with yellowish tinge; anterior crossbands slightly darker brown but nearly indistinct; dorsal and lateral blotches almost indistinguishable from background body color; spaces between lateral blotches light orange tan; venter - uniform yellow, without typical half-moon pattern; eye light brown with dark brown to black pupil.

This pattern differs substantially from the normal pattern of dark brown to reddish brown dorsal crossbands and body blotches on a brown background on the dorsum, and a cream to yellow venter with numerous reddish-brown half-moon-shaped figures usually arranged in two rows (Ernst & Barbour, 1989; Mitchell, 1994).

The normal variant is typical of other specimens of this species known from Giles County. Other variations on the typical phenotype for populations in Virginia are described in Mitchell (1994). Wright & Wright (1957) noted that albinistic, erythristic, and melanistic specimens of *N. sipedon* are not uncommon but provided information only on albinos.

The phenotype described above can be considered nearly complete xanthism, in reference to the lack of all integumentary pigments except brown, orange, and yellow. Dark pigment is present only in the pupils of the eyes. This is the first report of such a variation in *N. sipedon* from Virginia. Partially xanthic phenotypes have been reported in *Thamnophis sirtalis* (Groves, 1966) and *Carphophis amoenus* (Simmons & Stine, 1961) from Maryland.

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Literature Cited

Allard, H. A. 1945. A color variant of the eastern worm snake. Copeia 1945:42.

Anonymous. 1961. Albinism in southeastern snakes. Virginia Herpetological Society Bulletin 26:3.

Bulmer, W. 1985. Report on an unbanded population of *Nerodia sipedon* from Virginia. Virginia Journal of Science 36:106 (abstract).

Carroll, R. P. 1950. Amphibia and reptiles. pp. 195-211 *In* James River Project Committee (Compilers), The James River Basin, Past, Present, and Future. Virginia Academy of Science, Richmond, VA.

Dyrkacz, A. 1981. Recent instances of albinism in North American amphibians and reptiles. Society for the Study of Amphibians and Reptiles, Herpetological Circular (11):1-31.

Ernst, C. H. & R. W. Barbour. 1989. Snakes of Eastern North America. George Mason University Press, Fairfax, VA. 282 pp.

Groves, J. D. 1966. Notes on xanthic eastern garter snake, *Thamnophis s. sirtalis*. Bulletin of the Maryland Herpetological Society 2:8.

Hensley, M. 1959. Albinism in North American amphibians and reptiles. Publications of the Museum of Michigan State University, Biological Series 1:133-159.

Mitchell, J. C. 1994. The Reptiles of Virginia. Smithsonian Institution Press, Washington, D.C. 368 pp.

Shively, S. H. & J. C. Mitchell. 1994. Natural history: *Thamnophis sirtalis*, Albinism. Herpetological Review 25: 30.

Simmons, R. S. & C.J. Stine. 1961. Ankylosis and xanthism in the eastern worm snake. Herpetologica 17:206-208.

Wright, A. H. & A. A. Wright. 1957. Handbook of Snakes of the United States and Canada. 2 Volumes., Cornell University Press, Ithaca, NY. 1105 pp.